PIONEER
NATURAL RESOURCES ALASKA

Pioneer Natural Resources Alaska, Inc
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April 6, 2010

Michael Lidgard
Manager, NPDES Permits Unit
U.S. Environmental Protection Agency Region 10
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101

RE: Request for Additional Information
Cosmopolitan Development Project
Notice of Intent, NPDES General Permit AKG-31-5000

Dear Mr. Lidgard,

We received your March 16, 2010 request for additional information regarding our Notice of Intent (NOI) for coverage under the NDPES Cook Inlet General Permit for Oil and Gas Facilities (AKG-31-5000) for the Cosmopolitan Development Project. We have summarized each of your requests and provided responses below.

1. *Part IV.A of the permit requires new facilities to submit a Best Management Practices (BMP) Plan with the NOI.*

The BMP Plan was not included with the NOI because the permit only requires the plan be "available to EPA and ADEC upon request". Although we don't plan to commence discharge for some time, we have drafted the attached BMP Plan.

2. *Waterflooding discharges (Discharge 014) are discharges associated with the treatment of seawater prior to its injection into a hydrocarbon-bearing formation to improve the flow of hydrocarbons from production wells. This discharge may not meet the definition of waterflooding discharges.*

We have deliberately designed the waterflooding treatment system to minimize discharges in accordance with the objectives of the Clean Water Act and outside stakeholder input. The waterflood treatment system consists of the seawater intake screen and structure, subsea piping, flocculation and filtration, chemical treatment, and associated pumps, tanks, and piping, all with the sole objective of providing water of sufficient quality for injection into the hydrocarbon-bearing formation to increase

production. The only discharge associated with this system we have not been able to eliminate is the periodic pigging of the subsea piping. The discharge is associated with the waterflooding treatment system and its characteristics are essentially the same as would be expected from strainer and filter backwash (seawater with elevated concentrations of marine particulate matter). From a practical standpoint, the discharge should be considered part of Discharge 014, otherwise the permit is meaningless, as every waterflooding treatment system would require an individual permit.

3. *It is unclear how seawater treatment wastes, such as filter backwash and strainer systems, will be managed.*

The proposed system has been designed so that all wastewater from the treatment process is recycled into the headworks so the water can be recovered and used for waterflooding purposes.

4. *Provide an estimate of the volume associated with drilling fluids from the borehole drilling operations that will exit into the water.*

To minimize the discharge of solids, clean water will be circulated through the borehole prior to its exit through the seafloor. When the borehole penetrates the seafloor, water equivalent to the hole volume above the tide level will be flushed out. The approximate maximum volume is expected to be 9,000 gallons.

The discharge is associated with the construction of a seawater intake regulated under Section 404 of the Clean Water Act, and is therefore, not subject to NPDES permitting requirements. This practice is common for similar shore crossings used in the construction of pipelines, water intakes/outfalls, and power and communication cables.

5. *Provide an estimate of the discharge volume associated with initial pigging of the intake piping.*

The volume would be the same as for routine pigging operations, approximately 17,500 gallons. It should not be subject to separate NPDES permitting for the same reasons as described in response number four above.

6. *Describe the management measures to prevent the release of chemicals into the environment.*

The release of chemicals will be avoided by using raw seawater for pigging. Seawater will be diverted from the intake line upstream of any chemical treatment into a tank isolated from the process. A separate pump will then be connected to the pig launcher to provide motive force for the pig. The isolation of the pigging process from the

treatment system ensures that chemicals will not be released during pigging operations. For a more thorough description, refer to the attached BMP.

7. *New sources are not authorized to discharge produced water, drilling fluids, or drill cuttings under the Permit.*

Acknowledged, Pioneer has specifically designed the facility to avoid the need for discharges. Drilling fluids and cuttings will be disposed of through subsurface disposal (either in an approved well annulus or a dedicated class 1 or 2 disposal well) and all produced water will be reinjected for reservoir pressure maintenance.

We would appreciate the opportunity to discuss this project in person and will contact you to make arrangements. In the meantime, please contact me at (907) 343-2112 or John Hellén at (907) 343-2102, if you have any questions.

Sincerely,

K. H. Sheffield, Jr.
President, Pioneer Natural Resources Alaska, Inc.

Attachments:
Cosmopolitan BMP Plan for Discharge 014

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Waterflooding Discharge (014) Best Management Practices Plan Cosmopolitan Development Project

NPDES General Permit No. AKG-31-5000
for Oil and Gas Extraction Facilities

April 5, 2010

Table of Contents

1.0 Name and Location of Facility

Pioneer Natural Resources Alaska, Inc.'s (Pioneer's) Cosmopolitan Development Project (Cosmopolitan) is located 5.5 miles north of Anchor Point, on the Kenai Peninsula of Alaska. A production facility is proposed for construction immediately adjacent to the existing drill site. A seawater intake will be installed approximately 2500 feet offshore and connected back to the production facility by pipe installed using horizontal directional drilling.

2.0 Statement of Policy

Pioneer's policy at Cosmopolitan is to manage all operations in a manner that protects the environment and the health and safety of employees, customers, contractors, and the public.

To accomplish this, Pioneer performs the following:

- Advises each supervisor and employee of health, safety, and environmental requirements and holds them accountable for performance.
- Designs and manages operations to minimize environmental and human health impacts and, to the extent possible, provides a workplace free of recognized safety hazards.
- Complies with all laws and regulations governing health, safety, and environmental protection.
- Ensures a proper balance between health, safety, and environmental factors and economic factors.
- Provides health, safety, and environmental professionals to support field personnel.
- Monitors, evaluates, and reports performance in health, safety, and environmental protection.
- Provides training needed to protect human, environmental, and physical resources.
- Participates in programs designed to enhance knowledge and improve technology, laws, and regulations.

3.0 BMP Plan

The Best Management Practices (BMP) apply to discharge activities at Cosmopolitan under U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit No. AKG-31-5000. This BMP Plan is designed to minimize the potential for release of pollutants into receiving waters and specifically addresses discharges from the seawater intake pipe during pigging operations.

A copy of this BMP Plan shall be maintained by the Pioneer HSE Specialist and is available to the EPA or Alaska Department of Environmental Conservation (ADEC) upon request.

4.0 BMP Committee

The BMP Committee is responsible for implementing and maintaining the operational procedures outlined in this BMP Plan. The committee reviews the BMP Plan annually (as required in Part IV.D.2 of the permit), along with any incident reports, and operations procedures to discuss ways to decrease the potential for releases of pollutants. The BMP Committee revises the BMP Plan as necessary.

An evaluation of plan effectiveness is paramount to committee duties. If a deficiency of the plan is noted, the committee makes recommendations to management. When necessary, appropriate processes or procedural changes are reviewed and analyzed to meet the intent of the plan. Updated training for operational personnel and contractors is implemented, if training needs are identified by the committee.

Prior to initiating waterflooding discharges, this BMP Plan is reviewed with individuals responsible for directing the activities and by those on the BMP Committee.

The BMP Committee members are:

- Pioneer HSE Specialist.
- Production Supervisor.
- Drilling Supervisor.

If necessary, the BMP Committee consults with outside experts on specific water quality issues in the course of review of monitoring results and modification of the BMP Plan.

5.0 Specific Objectives for the Prevention and Reduction of Pollutant Discharges

Specific objectives are defined from the BMP Committee's decision-making criteria. These objectives are designed so that wastewater discharge activities are conducted in an environmentally sound manner.

The BMP Committee's objectives are:

- Minimize the number and quantity of pollutants being discharged into the environment.
- Minimize the toxicity of effluent being discharged into the environment.
- Prevent entry of other waste streams into the discharge.
- Prevent release of hydrocarbon, particulate, and sediment into the environment.
- Minimize impacts by timing of discharge with tide cycles.

6.0 Standard Operating Procedures

6.1 Prestartup Inspection

Operations personnel are responsible for spotting the temporary seawater tank, ensuring the tank is clean and contains no residual contaminants, and filling the tank with the volume of water necessary to drive the pig to the subsea intake structure.

Prior to initiating discharge activities, the pigging crew will contact the Pioneer HSE Specialist to receive input and approval on the operation. The Field HSE Specialist shall confirm all provisions of the NPDES permit can be met before authorizing any discharge.

After initial effluent samples have been taken and pass the free oil criteria, the Pioneer HSE Specialist will assess the operation to ensure that all required environmental requirements are in place (e.g. proper valve alignment, no visible sheen in seawater tank). The Pioneer HSE Specialist will then approve the discharge to commence. The discharge will be timed to avoid slack tide conditions (i.e. not within one hour of high or low tide) for improved dispersal.

6.2 Monitoring

Under the general permit, discharges from waterflooding intake line pigging activities will be limited and monitored by the permittee in accordance with Permit Parts II, VI, VII, VIII, and the requirements outlined below.

Samples of the seawater used to drive the intake pipe pig will be collected prior to discharge to the receiving water and checked for free oil using a modified static sheen method (appendix 1 to subpart A of 40 CFR part 435). A sample of the seawater will be collected in a container having an air-to-liquid interface area of 1000 cm2 (155.5 in2). Observations will be made no more than one hour after sample collection to ascertain if the seawater has a sheen, iridescence, gloss, or increased reflectance on the surface of the test seawater. The occurrence of any of these visual observations will constitute a demonstration that the tested material contains "free oil," and therefore results in a prohibition of its discharge into receiving waters.

The discharge will be monitored periodically throughout the process to ensure that the discharge water does not have a sheen. If a sheen is observed, the operation will be immediately halted and the Pioneer HSE Specialist promptly contacted. A daily log of the discharge activity will kept and submitted to the Pioneer HSE Specialist on a weekly or more frequent basis. The log will include: date, duration and volume of discharge, visual confirmation that source water does not contain sheen, and any offshore observations.

7.0 Risk Identification and Assessment

Risk identification and assessment of spill risks are part of all Pioneer operations. There are three main areas of environmental risks associated with discharges from waterflooding intake pipe pigging activities.

- Backflow from water treatment system while filling seawater tank.
- Residual hydrocarbons or other contaminants in the seawater tank or pump.
- Non-optimal mixing at discharge point due to stagnant tide cycle.

This BMP Plan will document procedures that will ensure every effort is made to complete waterflooding intake line pigging in an environmentally sound manner and will minimize risks to receiving waters. Training and environmental awareness programs are designed to eliminate, to the extent possible, the potential for any accidents or mishaps.

8.0 Materials Compatibility

Piping and tank materials generally consist of carbon or stainless steel or high-density polyethylene which pose no significant compatibility concerns with seawater used for pigging the waterflood intake line.

9.0 Reporting of BMP Incidents

All spills are immediately reported to determine the appropriate response in accordance with permit stipulations and company policy.

A BMP Incident Report is prepared for any discharge that is unauthorized or exceeds criteria specified in the NPDES permit. If the incident poses immediate danger to human health or the environment, under permit rules the Pioneer HSE Specialist will telephone the EPA Region 10 Water Compliance Section within 24 hours of incident awareness; and, will supply a written follow-up report within 5 days. If the incident does not pose immediate danger to human health or the environment, the event is noted on the Discharge Monitoring Report (DMR), in lieu of sending a written report to the EPA.

All spill incident reports are maintained within the Pioneer network. The reports are reviewed annually by the BMP Committee for possible improvements to the comprehensive BMP Plan.

Spill response personnel are immediately notified in the event of significant foreign substance release, for example diesel fuel. Procedures for mitigating or controlling foreign release are available to operational personnel and spill response personnel in several source locations:

- Material Safety Data Sheets (MSDS).
- Department of Transportation (DOT) publication: Emergency Response Guidebook.
- Pioneer's Oil Discharge Prevention and Contingency Plan (C-Plan) for the Cosmopolitan Development Project.

Spill response personnel are familiar with the necessity to consult these sources in response to a spill incident event.

10.0 Preventative Maintenance

Pioneer considers the scheduling and performance of Preventive Maintenance (PM) for all equipment an important process. Pioneer will utilize a PM program for equipment put in service to support the Cosmopolitan Development Project. Pioneer also requires contractors to have PM programs for equipment used on its projects. Upon request, maintenance records and complete logs of operation for contractor owned equipment will be made available. Long-term historical information and assessment of trends from PM programs can be used to recommend changes or upgrades in an attempt to prevent spills or discharges.

Each PM cycle employs observations sufficient to identify additional items requiring adjustment, repair, or replacement. This commitment assures that failures of systems or primary containment will not occur or cause a significant release to the environment or receiving waters.

11.0 Inspections and Records

Pioneer personnel routinely work with maintenance personnel to ensure that piping, valves, pumps and other components of the discharge system are properly maintained. A PM program is conducted throughout the year which provides scheduled maintenance checks at appropriate intervals based on historic findings.

The discharge pumping operation is of short duration. Typically, a single crew will be responsible for completing the pigging operation and doing the periodic sampling and inspections. During these inspections, any unusual conditions will be investigated. If there is any reason to suspect that permit effluent conditions are exceeded, the appropriate supervisor will be notified immediately. Analytical data will be collected and discharge operations will be discontinued, if necessary.

12.0 Employee Training

Position-specific training is provided for field employees and all personnel receive the Alaska Safety Handbook as a guideline and resource for operations. In addition, Pioneer's Health, Safety, and Environmental (HSE) Standard Operating Procedures (SOPs) are distributed widely as a general reference for environmental policies and regulations. The position-specific training and publications provide field personnel with:

- Safe chemical use practices and MSDS.
- Potential hazards associated with chemical exposure.
- Process safety.
- Spill prevention and response, including use of absorbents and other materials for containment and cleanup of spilled or leaking substances.
- Waste and hazardous waste disposal.
- Container and drum disposal.
- Other topics relevant to individual work areas and duties.

Pioneer contractors receive guidance documents and are required to comply with policies and goals of environmental responsibility, safe working conditions, and appropriate training for their employees.

13.0 Specific Best Management Practices

Accidental contamination could occur during waterflooding intake pigging activities. The main source would be from equipment used in the pumping operation. Secondary containment will be used for all pumps and under all stationary equipment utilized on the pads.

Personnel are equipped with radios so the appropriate supervisors, as well as the Pioneer HSE Specialist can be contacted immediately if any spill is detected.

14.0 Good Housekeeping

Good housekeeping measures are an integral part of Pioneer's practices and procedures associated with the discharge system. A safe, clean and orderly work environment is consistent with all Pioneer operated facilities. In addition, a comprehensive safety program is maintained and required for all individuals present in the field to participate. Weekly safety meetings and morning tailgate meetings routinely focus on good housekeeping and employee suggestions are implemented when appropriate.

As part of the good housekeeping program, Pioneer employs stringent waste management and segregation controls. In addition, secondary containment is used during storage of all bulk chemicals and hydrocarbon compounds in accordance with Pioneer's C-Plan. Personnel associated with fueling operation are experienced and knowledgeable with industry BMPs related to transfer, handling, labeling, secondary containment guidelines and the use of liner/drip trays.

15.0 Security

The Cosmopolitan Development Project is located on private property without access by public roads. Security will be provided by fencing and a controlled gate in accordance with an ADEC-approved access control plan. Pioneer posts restricted area signs to alert visitors and personnel of approval-only access. Security and operational personnel perform daily inspections of the project area. Any unauthorized visitors will be asked to leave the area immediately.

16.0 Review and Certification

16.1 Review

Following the annual review of this plan, this certification statement shall be updated and submitted to EPA on or before January 31st of each year of operation under permit AKG-31-5000 after the initial BMP submittal.

Certification Statement: "The annual review of this document has been completed and the BMP plan fulfils the requirements set forth in AKG-31-5000."

Reviewed and Accepted this_____ day of_____ by: _____
Production Supervisor

Reviewed and Accepted this_____ day of_____ by: _____
Pioneer HSE Specialist

Reviewed and Accepted this_____ day of_____ by: _____
Drilling Supervisor

16.2 Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Pioneer Natural Resources Alaska, Inc.	**Date**